Title (en)

REACTOR DISTRIBUTION APPARATUS AND QUENCH ZONE MIXING APPARATUS

Title (de)

VERTEILERVORRICHTUNG FÜR EINEN REAKTOR UND MISCHVORRICHTUNG FÜR QUENZONEN

Title (fr)

APPAREIL DE DISTRIBUTION DE REACTEUR ET MELANGEUR DE ZONE DE TREMPE

Publication

EP 1152820 A1 20011114 (EN)

Application

EP 99956649 A 19991021

Priority

- US 9924920 W 19991021
- US 17707998 A 19981023

Abstract (en)

[origin: WO0024505A1] A quench zone mixing apparatus (16) that occupies a low vertical height and has an improved mixing efficiency and fluid distribution across the catalyst surface includes a swirl chamber (20), a rough distribution network (100), and a distribution apparatus (120). In the swirl chamber (20), reactant fluid from a catalyst bed above is thoroughly mixed with a quench fluid by a swirling action. The mixed fluids exit the swirl chamber (20) through an aperture to the rough distribution system (100) where the fluids are radially distributed outward across the vessel to the distribution apparatus (120). The distribution apparatus (120) includes a plate (122) with a number of bubble caps (130) and associated a drip trace (150) that multiply the liquid drip stream from the bubble caps (130) to further symmetrically distribute the fluids across the catalyst surface. Alternatively, deflector baffles may be associated with the bubble caps (130) to provide a wider and more uniform liquid distribution below the plate (122). The distribution apparatus (120) can be used in the reaction vessel (10) without the swirl chamber (20) and rough distribution system (100), e.g., at the top of a vessel.

IPC 1-7

B01J 8/02; B01J 8/04; B01F 5/00; B01F 5/06; B01D 3/20

IPC 8 full level

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CPC (source: EP US)

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